**WETLAND DETERMINATION DATA FORM - Great Plains Region**

Project/Site: L3R City/County: Marshall Sampling Date: 2015-06-04

Applicant/Owner: Enbridge State: Minnesota Sampling Point: w-156n46w34-d1

Investigator(s): ACM/KRG Section, Township, Range:

Landform (hillslope, terrace, etc.): depression Local Relief (concave, convex, none): Conca... Slope (%): 0-2

Subregion (LRR or MLRA): Latitude: 48.2893002033... Longitude: -96.54474925...

Datum: Minnesota State Plane North, NAD 83 (2011) U.S. feet

Soil Map Unit Name: I24A NWI Classification: PEMA

Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in Remarks): Yes

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks)

**SUMMARY OF FINDINGS** - **Attach site map showing sampling point locations, transects, important features, etc.**

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes | **within a Wetland?** | Yes |
| Wetland Hydrology Present? | Yes | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)

The wetland is a fresh wet meadow within a grazed pasture.

**VEGETATION -** Use scientific names of plants.

| Tree Stratum (Plot Size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | 0 = Total Cover | | |
| Sapling/Shrub Stratum (Plot Size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| Herb Stratum (Plot Size: 5 ) | | | |
| 1. Juncus balticus | 65.00 | Yes | FACW |
| 2. Solidago gigantea | 15.00 | No | FAC |
| 3. Agrostis gigantea | 15.00 | No | FACW |
| 4. Poa compressa | 10.00 | No | FACU |
| 5. Equisetum arvense | 5.00 | No | FAC |
| 6. Taraxacum officinale | 2.00 | No | FACU |
| 7. Viola nephrophylla | 2.00 | No | FACW |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 114 = Total Cover | | |
| Woody Vine Stratum (Plot Size: ) | | | |
| 1. | | | |
| 2. | | | |
| | 0 = Total Cover | | |

% Bare Ground in Herb Stratum

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0.00 | x 1 | 0 |
| FACW species | 82.00 | x 2 | 164 |
| FACU species | 20.00 | x 3 | 48 |
| UPL species | 0.00 | x 4 | 0 |
| Column Totals | 114 (A) | | 272 (B) |

Prevalence Index = B/A = 2.3859649...

**Hydrophytic Vegetation Indicators:**

yes 1 - Rapid Test for Hydrophytic Vegetation

yes 2 - Dominance Test is > 50%

yes 3 - Prevalence Index is ≤ 3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?**

Remarks:

The wetland is dominated by Baltic rush.

**SOIL**

Sampling Point: w-156n46...

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-12 | 10YR 2 1 | 95 | 7.5YR 3 4 | 5 | C | M | sicl | |
| 12-18 | 10YR 3 1 | 86 | 7.5YR 3 4 | 2 | C | M | sil | mixed matrix |
| 12-18 | 10YR 4 3 | 10 | 10YR 3 6 | 2 | C | M | FS | mixed matrix, fine sand |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 1cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5cm Mucky Peat or Peat (S2)(**LRR G, H**)
- ☐ 5cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

**Indicators for Problematic Hydric Soil[3]:**

- ☐ 1cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16)(**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (explain in remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): ☐

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

Soil consists of silty clay loam over silt loam with redox features throughout. Soil meets hydric indicator F6.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- yes Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Water-Stained Leaves (B9)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Salt Crust (B11)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Dry-Season Water Table (C2)
- ____ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ____ Presence of Reduced Iron (C4)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- no Drainage Patterns (B10)
- ____ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- yes Geomorphic Position (D2)
- yes FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? No Depth (inches) _____

Water Table Present? Yes Depth (inches) 16

Saturation Present? Yes Depth (inches) 0

(includes capillary fringe)

**Wetland Hydrology Present?** Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

The soil is saturated to the surface.



Site Photograph 1

Sampling Point: w-156n46w34-d1